



Environmental Notification Form

For Office Use Only
Executive Office of Environmental Affairs

EOEA No.: 13956
MEPA Analyst: Holly Johnson
Phone: 617-626-1023

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Bulkhead Construction, Revetment Repair, Float Realignment, and Site Improvements at 21 Cape Isle Drive, Yarmouth		
Street: 21 Cape Isle Drive		
Municipality: Yarmouth	Watershed: Tidal Inlet off Parkers River	
Universal Tranverse Mercator Coordinates:	Latitude: 41° 38' 25.81" Longitude: 70° 13' 11.15"	
Estimated commencement date: Feb. 1, 2007	Estimated completion date: April 1, 2007	
Approximate cost: \$75,000	Status of project design: 100% complete	
Proponent: Stephen Walsh		
Street: 21 Cape Isle Drive		
Municipality: Yarmouth	State: MA	Zip Code: 02664
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Norman Hayes		
Firm/Agency: BSC Group, Inc.	Street: 349 Main Street, Unit D	
Municipality: W. Yarmouth	State: MA	Zip Code: 02673
Phone: 508-778-8919	Fax: 508-778-8966	E-mail: nhayes@bscgroup.com

- Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
 Yes No
- Has this project been filed with MEPA before?
 Yes (EOEA No. _____) No
- Has any project on this site been filed with MEPA before?
 Yes (EOEA No. _____) No
- Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:
- a Single EIR? (see 301 CMR 11.06(8)) Yes No
 - a Special Review Procedure? (see 301 CMR 11.09) Yes No
 - a Waiver of mandatory EIR? (see 301 CMR 11.11) Yes No
 - a Phase I Waiver? (see 301 CMR 11.11) Yes No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres): Not Applicable

Are you requesting coordinated review with any other federal, state, regional, or local agency?
 Yes (Specify United States Army Corps of Engineers and the DEP Waterways (Chapter 91) Division) No

List Local or Federal Permits and Approvals: Applications have been submitted to the Town of Yarmouth Conservation Commission & Waterways Commission, DEP Waterways Division, and United States Army Corps of Engineers

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- | | | |
|---------------------------------|---------------------------------------|--|
| <input type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
LAND				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input checked="" type="checkbox"/> Chapter 91 License <input type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input type="checkbox"/> Other Permits <i>(including Legislative Approvals) – Specify:</i> United States Army Corps of Engineers Programmatic General Permit
Total site acreage	0.26 acres			
New acres of land altered		Approx. 1,100 sq. ft.		
Acres of impervious area	Less than .1 acres	Not Applicable	Not Applicable	
Square feet of new bordering vegetated wetlands alteration		Approx. 175 sq. ft.		
Square feet of new other wetland alteration		Approx. 1,100 sq. ft.		
Acres of new non-water dependent use of tidelands or waterways		Not applicable		
STRUCTURES				
Gross square footage	Existing single family home	Proposed Bulkhead, approx. 95 linear feet long	Proposed Bulkhead, approx. 95 linear feet long	
Number of housing units	Not applicable	Not applicable	Not applicable	
Maximum height (in feet)	Not applicable	Not applicable	Not applicable	
TRANSPORTATION				
Vehicle trips per day	Not applicable	Not applicable	Not applicable	
Parking spaces	Not applicable	Not applicable	Not applicable	
WATER/WASTEWATER				
Gallons/day (GPD) of water use	Not applicable	Not applicable	Not applicable	
GPD water withdrawal	Not applicable	Not applicable	Not applicable	
GPD wastewater generation/treatment	Not applicable	Not applicable	Not applicable	
Length of water/sewer mains (in miles)	Not applicable	Not applicable	Not applicable	

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

Yes (Specify _____) No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

Yes (Specify _____) No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

Yes (Specify – Tidal inlet is designated as Estimated and Priority Habitat) No

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes (Specify _____) No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify _____) No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes (Specify _____) No

PROJECT DESCRIPTION: The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (*You may attach one additional page, if necessary.*)

a.) **Site Description** - The property located at 21 Cape Isle Drive contains a single-family home constructed in 1965 with associated driveway, deck, patio, walkways, lawn areas, landscaping, stone revetment, degraded riprap revetment, etc. The site is bordered by Parkers River to the west, a tidal inlet to the south, single-family homes with bulkhead to the east, and Cape Isle Drive cul-de-sac to the north. A fringe Bordering Vegetated Wetland exists along the southeastern shoreline of 21 Cape Isle Drive above the Mean High Water line.

The wetland resource areas and areas of conservation jurisdiction on the site that are protected under the Wetlands Protection Act include (moving from the tidal inlet landward):

- Land Under the Ocean
- Land Containing Shellfish
- Coastal Beach (degraded tidal flat)
- Coastal Bank
- Bordering Vegetated Wetland (BVW)
- Land Subject to Coastal Storm Flowage (Zone A12, elevation 10 feet)

Norman W. Hayes of BSC conducted a shellfish survey within the footprint of the proposed bulkhead on April 21, 2006. The shellfish survey revealed a degraded tidal flat area containing riprap stone and other debris. Neither Soft Shell Clams (*Mya arenaria*) nor Quahogs (*Mercenaria mercenaria*) were found within the five test plots excavated along the project footprint. The only animals observed were minor populations of Ribbed Mussels (*Geukensia demissum*) existing within the intertidal area and Quahogs in the deeper water of Parkers River west of the bulkhead.

b.) **Proposed Project** - In order to stabilize the shoreline of 21 Cape Isle Drive facing the tidal inlet, the removal of the existing degraded riprap revetment is proposed in preparation of the proposed vinyl sheet piling bulkhead. The existing degraded riprap revetment was constructed under an Order of Conditions in 1987 referenced as DEP File #SE83 – 823. Prior to repair and upgrade activities, a portion of the existing deck located at the rear of the house will be removed in order to create a workspace. Upon project completion, this deck will be rebuilt and extended as shown on the attached site plan. Riprap will be stockpiled on site and re-used as chink stone in the existing stone revetment located along the western shoreline of the site. Also, debris such as concrete pipes, wires, logs, etc. will be removed along 100 feet of the southern shoreline so as to realign the floats to improve navigation.

Once the riprap revetment has been removed for upgrade, construction of the vinyl sheet piling bulkhead will commence. First, the area immediately landward of the coastal bank will be excavated in order to install a proposed tie-back beam, which will secure the tie-rods (deadmen) necessary for bulkhead stability. The proposed tie-back beam is a concrete reinforced rebar beam approximately 2.5 feet by 2.5 feet and approximately 91 feet long that will sit on 12 inches of stone and allow for the installation of the tie-rods to connect to the bulkhead. The concrete for this proposed tie-back beam would be pumped into a framed footing in order to minimize site disturbance. Due to site constraints, traditional deadman ranging from 10 to 15 feet long are not possible for bulkhead construction and therefore, the need for the tie-back beam, which will secure the proposed 5 foot long tie-rods or deadmen. Next, the proposed vinyl sheet piling bulkhead will be installed with associated components such as the whalers, hardware, etc. The footprint of the bulkhead is just landward of Mean Low Water (MLW) and installation of this bulkhead will occur from a barge during periods of high tide so that the vinyl bulkhead can be installed to a depth of -5 feet MLW and to a height of 7 feet MLW. The bulkhead will tie into the existing bulkhead (11 Cape Isle Drive) to be replaced on the southeastern property line and tie into the existing stone revetment along the southwestern property line. The eastern portion of the bulkhead, approximately 35 feet along the BVW, will contain 4 inch holes spaced 5 feet on center to allow for tidal flow to support wetland plantings described below. To the extent possible, filter fabric will be used where appropriate. The proposed vinyl will connect into the abutting property's (11 Cape Isle Drive) existing wooden bulkhead, which is proposed for partial replacement. Proposed bulkhead replacement at 11 Cape Isle Drive will involve replacing approximately 15 feet of the wooden bulkhead in its existing footprint using the same structural materials.

Once the bulkhead is installed and the tie-rods connected from the bulkhead to the tie-back beam, backfilling behind the bulkhead will occur. Clean sand will be used as fill along the majority of the bulkhead. In the area of the BVW, which is the southeastern portion of the site approximately 35 linear feet, clean sand fill topped with 6 inches of loam will be backfilled against the bulkhead. Once the area has been backfilled, the approximate 5 foot wide filled area will be vegetated as follows:

- Portion from the stone revetment to the edge of the BVW, which is approximately 61 feet long and 5 feet wide, will be vegetated with American Beach Grass (*Ammophila breviligulata*). Planting protocol includes plant spacing 18 inches apart with 2 culms of Beach Grass per location planted 8 inches deep. Beach Grass will be planted from October 15th to March 31st as long as the sand is not frozen. Upon planting, the area will be should be fertilized with an osmocote slow release fertilizer.
- Portion from the edge of the planted American Beach Grass to the eastern property line, which is approximately 35 feet long, will be vegetated with native wetland shoreline plants listed in the Project Description attached.

An existing seasonal ramp stationed off the rear deck leads to seasonal floats anchored in the tidal inlet. Another existing seasonal float with removable ramp is located on the Parkers River side of the site. These seasonal removable ramp and float systems provide recreational access for the homeowner into the Parkers River and are proposed for slight realignment, which involves removal of riprap and debris along 100 feet of the southern shoreline. This realignment will improve navigation in the tidal inlet.

The existing stone revetment requires repair due to slumping in areas toward the cul-de-sac. The existing granite stairway at the end of the revetment closest to the cul-de-sac has slumped and is unstable. The applicant wishes to remove this stairway and extend the stone revetment in the stairway's footprint.

Alternatives – Potential alternatives to the proposed bulkhead are:

1. Stone revetment – A stone revetment would involve more base area than a proposed bulkhead, which would decrease navigation space and occupy land under the ocean. Removal of construction debris would not take place.
2. Do nothing – The eroding coastal bank will eventually undermine the foundation to the single family home creating a significant hazard and a significantly larger structure as away to protect the house.

c.) Mitigation – The proposed bulkhead project replaces and expands the area of Bordering Vegetated Wetland located along the southeast portion of the site.